MTS-3321US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	K. Morimoto et al.	: Art Unit:
Serial No.:	To Be Assigned	: Examiner:
Filed:	Herewith	:
FOR:	DATA RECORDING APPARATUS, DATA REPRODUCING APPARATUS, DATA RECORDING METHOD, AND DATA REPRODUCING METHOD	:

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

S I R :

Prior to examination, please amend the above application as follows:

IN THE SPECIFICATION:

Please insert the following paragraph at page 1, line 4 of the specification:

THIS APPLICATION IS A U.S. NATIONAL PHASE APPLICATION OF PCT INTERNATIONAL APPLICATION PCT/JP01/05931.

Please replace the paragraph beginning at page 2, line 4:

The operation of the thus configured digital recording apparatus will now be described.

Please replace the paragraph beginning at page 2, line 22:

The modulator 41 applies modulation for recording on the recording signal which is produced by the error correcting encoder 40. The recording heads 42 record the modulated recording signal on the tape-like recording medium 8. In this way, the conventional digital recording apparatus is configured so as to extract rate information from an input bit stream and record the input bit stream in a preset recording mode. The above-mentioned digital recording apparatus is disclosed in, for example, Japanese Patent Publication (Kokai) No. HEI08-111068. The entire disclosure of Japanese Patent Publication (Kokai) No. HEI08-

111068 is incorporated herein by reference in its entirety.

Please replace the section beginning at page 5, line 11:

One aspect of the present invention (corresponding to claim 1) is a data recording apparatus comprising:

Please replace the section beginning at page 5, line 25:

Another aspect of the present invention (corresponding to claim 2) is a data recording apparatus according to the 1st invention, wherein said apparatus further comprises special-data producing means of, from the data which is received by said inputting means, producing at least one or more kinds of special-reproduction data,

Please replace the section beginning at page 6, line 13:

Still another aspect of the present invention (corresponding to claim 3) is a data recording apparatus comprising:

Please replace the section beginning at page 7, line 4:

Yet still another aspect of the present invention is a data recording apparatus, wherein said apparatus further comprises special-data producing means of, from the data which is received by said inputting means, producing at least one or more kinds of special-reproduction data,

Please replace the section beginning at page 7, line 17:

Still yet another aspect of the present invention is a data recording apparatus, wherein there are plural kinds of special-reproduction data, and

Please replace the section beginning at page 7, line 24:

A further aspect of the present invention is a data recording apparatus, wherein the data which is received by said inputting means is a bit stream consisting of a packet signal string configured by a data of a fixed length, and

Please replace the paragraph beginning at page 8, line 10:

A still further aspect of the present invention is a data recording apparatus, wherein the bit stream is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

Please replace the paragraph beginning at page 8, line 15:

A yet further aspect of the present invention is a data recording apparatus, wherein the fixed time period is a time corresponding to an integer multiple of a minimum record unit time of said data recording apparatus.

Please replace the paragraph beginning at page 8, line 21:

A still yet further aspect of the present invention is a data recording apparatus, wherein said controlling means compares a predetermined reference value with the rate which is detected by said data rate detecting means, to control the recording rate of said recording means.

Please replace the paragraph beginning at page 9, line 3:

An additional aspect of the present invention is a data recording apparatus, wherein the predetermined reference value is a value which is determined in accordance with a rate of a head data of the recording signal which is to be recorded by said recording means, in each recording time period.

Please replace the section beginning at page 9, line 10:

A still yet additional aspect of the present invention is a data recording apparatus, wherein there are at least two kinds of recording modes in which said recording means records the recording signal, and

Please replace the section beginning at page 9, line 24:

A yet additional aspect of the present invention is a data recording apparatus, wherein there are at least two kinds of recording modes in which said recording means records the recording signal, and

Please replace the paragraph beginning at page 10, line 18:

A still yet additional aspect of the present invention is a data recording apparatus, wherein the predetermined time period means a continuous recording time period, or a recording time period of bit streams of same contents.

Please replace the section beginning at page 10, line 23:

A supplementary aspect of the present invention is a data recording apparatus comprising:

Please replace the paragraph beginning at page 11, line 11:

A still supplementary aspect of the present invention is a data recording apparatus, wherein the data which is received by said inputting means is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

Please replace the paragraph beginning at page 11, line 17:

A yet supplementary aspect of the present invention is a data recording apparatus, wherein said recording means records also the recording rate on the recording medium.

Specification at page 11, line 22:

A still yet supplementary aspect of the present invention is a data reproducing apparatus comprising at least reproducing means of, by using the recording rate which is recorded on the recording medium by a data recording apparatus, reproducing the recording signal which is recorded on the recording medium.

Please replace the section beginning at page 12, line 4:

One aspect of the present invention is a data recording method comprising:

Please replace the section beginning at page 12, line 18:

Another aspect of the present invention is a data recording method, wherein

said method further comprises a special-data producing step of, from the data which is received in said inputting step, producing at least one or more kinds of special-reproduction data,

Please replace the section beginning at page 13, line 6:

Still another aspect of the present invention is a data recording method comprising:

Please replace the section beginning at page 13, line 23:

Yet still another aspect of the present invention is a data recording method, wherein said method further comprises a special-data producing step of, from the data which is received in said inputting step, producing at least one or more kinds of special-reproduction data,

Please replace the section beginning at page 14, line 11:

Still yet another aspect of the present invention is a data recording method, wherein the data which is received in said inputting step is a bit stream consisting of a packet signal string configured by a data of a fixed length, and

Please replace the section beginning at page 14, line 20:

A further aspect of the present invention is a data recording method comprising:

Please replace the paragraph beginning at page 15, line 8:

A still further aspect of the present invention is a data recording method , wherein the data which is received in said inputting step is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

Please replace the paragraph beginning at page 15, line 14:

A yet further aspect of the present invention is a data recording method, wherein, in said recording step, also the recording rate is recorded on the recording

medium.

Please replace the paragraph beginning at page 15, line 19:

A still yet further aspect of the present invention is a data reproducing method comprising at least a reproducing step of, by using the recording rate which is recorded on the recording medium by a data recording method, reproducing the recording signal which is recorded on the recording medium.

Please replace the section beginning at page 16, line 1:

An additional aspect of the present invention is a program for causing a computer to function as a whole or a part of, in a data recording apparatus:

Please replace the section beginning at page 16, line 16:

A still additional aspect of the present invention is a program for causing a computer to function as a whole or a part of, in a data recording apparatus:

Please replace the section beginning at page 17, line 9:

A yet additional aspect of the present invention is a program for causing a computer to function as a whole or a part of, in a data recording apparatus:

Please replace the section beginning at page 17, line 23:

A still yet additional aspect of the present invention is a medium which carries a program for causing a computer to function as a whole or a part of, in a data recording apparatus:

Please replace the section beginning at page 18, line 15:

A supplementary aspect of the present invention is a medium which carries a program for causing a computer to function as a whole or a part of, in a data recording apparatus:

Please replace the section beginning at page 19, line 9:

A still supplementary aspect of the present invention is a medium which carries a program for causing a computer to function as a whole or a part of, in a data recording apparatus:

IN THE CLAIMS:

Please cancel claims 6, 8, 22, and 27-32.

Please amend the claims as follows:

1. (As Amended) A data recording apparatus comprising:

inputting means of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium;

data rate detecting means of counting a number of input packets which are received by said inputting means, at intervals of a time corresponding to an integer multiple of a minimum record unit time; and

controlling means of controlling a recording rate of said recording means by using the rate which is detected by said data rate detecting means.

3. (As Amended) A data recording apparatus comprising:

inputting means of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium;

data rate detecting means of counting a number of input packets which are received by said inputting means, at intervals of a time corresponding to an integer multiple of a minimum record unit time;

rate information outputting means of outputting information of the rate which is detected by said data rate detecting means; and

controlling means of controlling a recording rate of said recording means on the basis of instructions from a user.

7. (As Amended) A data recording apparatus according to claim 5, wherein the bit stream is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

9. (As Amended) A data recording apparatus according to claims 1 or 2 wherein said controlling means compares a predetermined reference value with the rate which is detected by said data rate detecting means, to control the recording rate of said recording means.

14. (As Amended) A data recording apparatus comprising:

inputting means of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium; and

controlling means of fixing a recording rate of said recording means to a predetermined rate in accordance with a broadcasting channel corresponding to the recording signal which is to be recorded by said recording means.

15. (As Amended) A data recording apparatus according to claim 14, wherein the data which is received by said inputting means is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit

stream configured by a packet of a DSS system.

16. (As Amended) A data recording apparatus according to any one of claims 1, 2, 3, 14, or 15, wherein said recording means records also the recording rate on the recording medium.

18. (As Amended) A data recording method comprising:

an inputting step of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium;

a rate detecting step of counting a number of input packets which are received in said inputting step, at intervals of a time corresponding to an integer multiple of a minimum record unit time; and

a controlling step of controlling a recording rate in said recording step by using the rate which is detected in said rate detecting step.

20. (As Amended) A data recording method comprising:

an inputting step of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium;

a rate detecting step of counting a number of input packets which are received in said inputting step, at intervals of a time corresponding to an integer multiple of a minimum record unit time;

a rate information outputting step of outputting information of the rate which is detected in said rate detecting step; and

a controlling step of controlling a recording rate in said recording step on the basis of instructions from a user.

23. (As Amended) A data recording method comprising:

an inputting step of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium; and

a controlling step of fixing a recording rate in said recording step to a predetermined rate in accordance with a broadcasting channel corresponding to the recording signal which is recorded in said recording step.

24. (As Amended) A data recording method according to claim 23, wherein the data which is received in said inputting step is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream configured by a packet of a DSS system.

25. (As Amended) A data recording method according to any one of claims 18 to 21 and 23-24, wherein, in said recording step, also the recording rate is recorded on the recording medium.

Respectfully submitted,

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Attorney for Applicants

LEA/lm
Enclosure: Version With Markings Showing Changes Made
Amended Abstract
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Kathleen Libby

ABSTRACT

In the case where rate information is not transmitted on an input bit stream, it was difficult to efficiently record the input bit stream in accordance with the rate of the input bit stream. Therefore, a data recording apparatus is realized which comprises: signal processing means of coding the input bit stream to a recording signal; a packet counter section that counts the number of packets serving as constituting units of the input bit stream, for a fixed time period; a system controller that controls a recording rate on a tape-like recording medium; and recording means of recording the recording signal on the tape-like recording medium, and which is configured so as to calculate the rate of the input bit stream from an output of the packet counter section to control the recording rate, whereby recording can be efficiently conducted in accordance with the rate of an input signal.

VERSION WITH MARKINGS SHOWING CHANGES MADE

SPECIFICATION:

Specification at page 2, line 4:

~~Hereinafter, t~~The operation of the thus configured digital recording apparatus will now be described.

Specification at page 2, line 22:

The modulator 41 applies modulation for recording on the recording signal which is produced by the error correcting encoder 40. The recording heads 42 record the modulated recording signal on the tape-like recording medium 8. In this way, the conventional digital recording apparatus is configured so as to extract rate information from an input bit stream and record the input bit stream in a preset recording mode. The above-mentioned digital recording apparatus is disclosed in, for example, Japanese Patent Publication (Kokai) No. HEI08-111068. The entire disclosure of Japanese Patent Publication (Kokai) No. HEI08-111068 is incorporated ~~(cited)~~ herein by reference in its entirety.

Specification at page 5, line 11:

~~The 1st invention~~ One aspect of the present invention (corresponding to claim 1) is a data recording apparatus comprising:

Specification at page 5, line 25:

~~The 2nd invention~~ Another aspect of the present invention (corresponding to claim 2) is a data recording apparatus according to the 1st invention, wherein said apparatus further comprises special-data producing means of, from the data which is received by said inputting means, producing at least one or more kinds of special-reproduction data,

Specification at page 6, line 13:

~~The 3rd invention~~ Still another aspect of the present invention

(corresponding to claim 3) is a data recording apparatus comprising:

Specification at page 7, line 4:

~~The 4th invention~~ Yet still another aspect of the present invention ~~(corresponding to claim 4)~~ is a data recording apparatus ~~according to the 3rd invention~~, wherein said apparatus further comprises special-data producing means of, from the data which is received by said inputting means, producing at least one or more kinds of special-reproduction data,

Specification at page 7, line 17:

~~The 5th invention~~ Still yet another aspect of the present invention ~~(corresponding to claim 5)~~ is a data recording apparatus ~~according to the 2nd or 4th invention~~, wherein there are plural kinds of special-reproduction data, and

Specification at page 7, line 24:

~~The 6th invention~~ A further aspect of the present invention ~~(corresponding to claim 6)~~ is a data recording apparatus ~~according to any one of the 1st to 5th inventions~~, wherein the data which is received by said inputting means is a bit stream consisting of a packet signal string configured by a data of a fixed length, and

Specification at page 8, line 10:

~~The 7th invention~~ A still further aspect of the present invention ~~(corresponding to claim 7)~~ is a data recording apparatus ~~according to the 6th invention~~, wherein the bit stream is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

Specification at page 8, line 15:

~~The 8th invention~~ A yet further aspect of the present invention ~~(corresponding to claim 8)~~ is a data recording apparatus ~~according to the 6th or 7th invenion~~, wherein the fixed time period is a time corresponding to an integer multiple of a minimum record unit time of said data recording apparatus.

Specification at page 8, line 21:

~~The 9th invention~~ A still yet further aspect of the present invention ~~(corresponding to claim 9)~~ is a data recording apparatus ~~according to any one of the 1st, 2nd, 5th, 6th, 7th, and 8th inventions~~, wherein said controlling means compares a predetermined reference value with the rate which is detected by said data rate detecting means, to control the recording rate of said recording means.

Specification at page 9, line 3:

~~The 10th invention~~ An additional aspect of the present invention ~~(corresponding to claim 10)~~ is a data recording apparatus ~~according to the 9th inveniton~~, wherein the predetermined reference value is a value which is determined in accordance with a rate of a head data of the recording signal which is to be recorded by said recording means, in each recording time period.

Specification at page 9, line 10:

~~The 11th invention~~ A still yet additional aspect of the present invention ~~(corresponding to claim 11)~~ is a data recording apparatus ~~according to the 9th invention~~, wherein there are at least two kinds of recording modes in which said recording means records the recording signal, and

Specification at page 9, line 24:

~~The 12th invention~~ A yet additional aspect of the present invention ~~(corresponding to claim 12)~~ is a data recording apparatus ~~according to the 9th invention~~, wherein there are at least two kinds of recording modes in which said recording means records the recording signal, and

Specification at page 10, line 18:

~~The 13th invention~~ A still yet additional aspect of the present invention ~~(corresponding to claim 13)~~ is a data recording apparatus ~~according to the 12th invention~~, wherein the predetermined time period means a continuous recording time period, or a recording time period of bit streams of same contents.

Specification at page 10, line 23:

~~The 14th invention~~ A supplementary aspect of the present invention ~~(corresponding to claim 14)~~ is a data recording apparatus comprising:

Specification at page 11, line 11:

~~The 15th invention~~ A still supplementary aspect of the present invention ~~(corresponding to claim 15)~~ is a data recording apparatus ~~according to the 14th invention~~, wherein the data which is received by said inputting means is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

Specification at page 11, line 17:

~~The 16th invention~~ A yet supplementary aspect of the present invention ~~(corresponding to claim 16)~~ is a data recording apparatus ~~according to any one of the 1st to 15th inventions~~, wherein said recording means records also the recording rate on the recording medium.

Specification at page 11, line 22:

~~The 17th invention~~ A still yet supplementary aspect of the present invention ~~(corresponding to claim 17)~~ is a data reproducing apparatus comprising at least reproducing means of, by using the recording rate which is recorded on the recording medium by a data recording apparatus ~~according to the 16th invention~~, reproducing the recording signal which is recorded on the recording medium.

Specification at page 12, line 4:

~~The 18th invention~~ One aspect of the present invention ~~(corresponding to claim 18)~~ is a data recording method comprising:

Specification at page 12, line 18:

~~The 19th invention~~ Another aspect of the present invention ~~(corresponding to claim 19)~~ is a data recording method ~~according to the 18th invention~~, wherein

said method further comprises a special-data producing step of, from the data which is received in said inputting step, producing at least one or more kinds of special-reproduction data,

Specification at page 13, line 6:

~~The 20th invention~~ Still another aspect of the present invention ~~(corresponding to claim 20)~~ is a data recording method comprising:

Specification at page 13, line 23:

~~The 21st invention~~ Yet still another aspect of the present invention ~~(corresponding to claim 21)~~ is a data recording method ~~according to the 20th invention~~, wherein said method further comprises a special-data producing step of, from the data which is received in said inputting step, producing at least one or more kinds of special-reproduction data,

Specification at page 14, line 11:

~~The 22nd invention~~ Still yet another aspect of the present invention ~~(corresponding to claim 22)~~ is a data recording method ~~according to any one of the 18th to 21st inventions~~, wherein the data which is received in said inputting step is a bit stream consisting of a packet signal string configured by a data of a fixed length, and

Specification at page 14, line 20:

~~The 23rd invention~~ A further aspect of the present invention ~~(corresponding to claim 23)~~ is a data recording method comprising:

Specification at page 15, line 8:

~~The 24th invention~~ A still further aspect of the present invention ~~(corresponding to claim 24)~~ is a data recording method ~~according to the 23rd invention~~, wherein the data which is received in said inputting step is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

Specification at page 15, line 14:

~~The 25th invention~~ A yet further aspect of the present invention ~~(corresponding to claim 25)~~ is a data recording method ~~according to any one of the 18th to 24th inventions~~, wherein, in said recording step, also the recording rate is recorded on the recording medium.

Specification at page 15, line 19:

~~The 26th invention~~ A still yet further aspect of the present invention ~~(corresponding to claim 26)~~ is a data reproducing method comprising at least a reproducing step of, by using the recording rate which is recorded on the recording medium by a data recording method ~~according to the 25th invention~~, reproducing the recording signal which is recorded on the recording medium.

Specification at page 16, line 1:

~~The 27th invention~~ An additional aspect of the present invention ~~(corresponding to claim 27)~~ is a program for causing a computer to function as a whole or a part of, in a data recording apparatus ~~according to the 1st invention~~:

Specification at page 16, line 16:

~~The 28th invention~~ A still additional aspect of the present invention ~~(corresponding to claim 28)~~ is a program for causing a computer to function as a whole or a part of, in a data recording apparatus ~~according to the 3rd invention~~:

Specification at page 17, line 9:

~~The 29th invention~~ A yet additional aspect of the present invention ~~(corresponding to claim 29)~~ is a program for causing a computer to function as a whole or a part of, in a data recording apparatus ~~according to the 14th invention~~:

Specification at page 17, line 23:

~~The 30th invention~~ A still yet additional aspect of the present invention ~~(corresponding to claim 30)~~ is a medium which carries a program for causing a

computer to function as a whole or a part of, in a data recording apparatus ~~according to the 1st invention~~:

Specification at page 18, line 15:

~~The 31st invention~~A supplementary aspect of the present invention ~~(corresponding to claim 31)~~ is a medium which carries a program for causing a computer to function as a whole or a part of, in a data recording apparatus ~~according to the 3rd invention~~:

Specification at page 19, line 9:

~~The 32nd invention~~A still supplementary aspect of the present invention ~~(corresponding to claim 32)~~ is a medium which carries a program for causing a computer to function as a whole or a part of, in a data recording apparatus ~~according to the 14th invention~~:

CLAIMS:

1. (As Amended) A data recording apparatus comprising:

inputting means of receiving ~~a data~~ a bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium;

data rate detecting means of ~~detecting a rate of the data which is received by said inputting means~~counting a number of input packets which are received by said inputting means, at intervals of a time corresponding to an integer multiple of a minimum record unit time; and

controlling means of controlling a recording rate of said recording means by using the rate which is detected by said data rate detecting means.

3. (As Amended) A data recording apparatus comprising:

inputting means of receiving ~~a data~~ a bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium;

data rate detecting means of ~~detecting a rate of the data which is received by said inputting means~~ counting a number of input packets which are received by said inputting means, at intervals of a time corresponding to an integer multiple of a minimum record unit time;

rate information outputting means of outputting information of the rate which is detected by said data rate detecting means; and

controlling means of controlling a recording rate of said recording means on the basis of instructions from a user.

7. (As Amended) A data recording apparatus according to claim ~~6~~5, wherein the bit stream is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

9. (As Amended) A data recording apparatus according to ~~any one of~~ claims 1~~,~~ or 2~~, 5, 6, 7, and 8,~~ wherein said controlling means compares a predetermined reference value with the rate which is detected by said data rate detecting means, to control the recording rate of said recording means.

14. (As Amended) A data recording apparatus comprising:

inputting means of receiving a ~~data~~ bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said

inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium; and

controlling means of fixing a recording rate of said recording means to a predetermined rate in accordance with a broadcasting channel corresponding to the recording signal which is to be recorded by said recording means.

15. (As Amended) A data recording apparatus according to claim 14, wherein the data which is received by said inputting means is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream configured by a packet of a DSS system.

16. (As Amended) A data recording apparatus according to any one of claims ~~1 to~~1, 2, 3, 14, or 15, wherein said recording means records also the recording rate on the recording medium.

18. (As Amended) A data recording method comprising:

an inputting step of receiving a ~~data~~ bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium;

a rate detecting step of ~~detecting a rate of the data which is received in said inputting step~~ counting a number of input packets which are received in said inputting step, at intervals of a time corresponding to an integer multiple of a minimum record unit time; and

a controlling step of controlling a recording rate in said recording step by using the rate which is detected in said rate detecting step.

20. (As Amended) A data recording method comprising:

an inputting step of receiving a ~~data~~ bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium;

a rate detecting step of ~~detecting a rate of the data which is received in said inputting step~~ counting a number of input packets which are received in said inputting step, at intervals of a time corresponding to an integer multiple of a minimum record unit time;

a rate information outputting step of outputting information of the rate which is detected in said rate detecting step; and

a controlling step of controlling a recording rate in said recording step on the basis of instructions from a user.

23. (As Amended) A data recording method comprising:

an inputting step of receiving a ~~data~~ bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium; and

a controlling step of fixing a recording rate in said recording step to a predetermined rate in accordance with a broadcasting channel corresponding to the recording signal which is recorded in said recording step.

24. (As Amended) A data recording method according to claim 23, wherein

the data which is received in said inputting step is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream configured by a packet of a DSS system.

25. (As Amended) A data recording method according to any one of claims 18 to 21 and 23-24, wherein, in said recording step, also the recording rate is recorded on the recording medium.

Claims 6, 8, 22, and 27-32 have been cancelled.

ABSTRACT

In the case where rate information is not transmitted on an input bit stream, it was difficult to efficiently record the input bit stream in accordance with the rate of the input bit stream. Therefore, a data recording apparatus is realized which comprises: signal processing means ~~4~~ of coding the input bit stream to a recording signal; a packet counter section ~~3~~ that counts the number of packets serving as constituting units of the input bit stream, for a fixed time period; a system controller ~~6~~ that controls a recording rate on a tape-like recording medium ~~8~~; and recording means ~~5~~ of recording the recording signal on the tape-like recording medium ~~8~~, and which is configured so as to calculate the rate of the input bit stream from an output of the packet counter section ~~3~~ to control the recording rate, whereby recording can be efficiently conducted in accordance with the rate of an input signal.